DOCUMENT RESUME

ED 281 093 CG 019 827

AUTHOR Miller, Leonard S.
TITLE Efficiency in California-Type Community-Based Long-Term Care Waiver Systems.
PUB DATE Mar 87
NOTE 30p.; Paper presented at the Annual Meeting of the American Society on Aging (33rd, Salt Lake City, UT, March 14-17, 1987).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Community Services; Cost Effectiveness; *Cost Estimates; *Deinstitutionalization (of Disabled); Health Insurance; *Home Programs; Individual Needs; Nursing Homes; *Older Adults; Program Costs; Social Support Groups
IDENTIFIERS *California; Frail Elderly; Long Term Care; *Multipurpose Senior Services Program

ABSTRACT

Interest in the development of community-based long-term care (CBLTC) programs as a substitute for institutional-based care has been steadily growing. The estimated benefits from the Multipurpose Senior Services Program (MSSP), California's intensive CBLTC system, were measured by the expected increase in community residency days for clients for a 6-month care period. The evaluation suggests that benefits are 20 times larger for the average frail group client compared to the average strong group client, yet the total additional cost of the average frail group client is estimated as only 20 percent more than the total additional cost of the average strong group client. Administrative costs are a large proportion of the additional costs of caring for the frail group. CBLTC programs should focus their care on the more frail clients and alter practices to reduce administrative costs. If the feasibility for community-based care were incorporated into California's present Medicaid nursing home review, more frail CBLTC clients would be located in nursing homes. Using MSSP's client frailty prediction (probability of death or nursing home entry in 6 months) would assist in locating frail clients in community living situations. Altering case management practices so that two-thirds of California's CBLTC clients received intensive case management until their community living situations stabilized (e.g., 3 months), and thereafter continued receiving intensive services with non-intensive case management, would reduce administrative costs by a factor of two. (NB)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED281093

# EFFICIENCY IN CALIFORNIA-TYPE COMMUNITY-BASED LONG-TERM CARE WAIVER SYSTEMS

CG 019827

Leonard S. Miller, Ph.D.
Professor, School of Social Welfare, University of California
Director, Multipurpose Senior Services Program Evaluation,
University Extension, University of California, Berkeley
March, 1987

Presented at American Society on Aging, 33rd. Annual Meeting, March 14-17, 1987, Salt Lake City, Utah

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Leonard S. Miller

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

## Efficiency in California-Type Community-Based Long-Term Care Waiver Systems

Interest in the development of community-based services as a substitute for institutional-based care has been steadily growing. At the end of Fiscal 1985, the Health Care Financing Administration (HCFA) had authorized 75 Medicaid Home and Community-Based Waiver (Section 2176) programs in 42 states serving 70,037 people. Thirty-four programs were targeted for aged and disabled populations, 35 were targeted for developmentally disabled/chronically mental ill populations, and 6 for both populations.[1]

The principle objective of these community-based long-term care (CBLTC) programs is to reduce institutionalization by providing suitable community-based care. There are a number of separate programs potentially providing CBLTC services. These include In-Home Supportive Services (IHSS) funded by Title XX, Home Health Services funded by Medicare, meals (in-home and congregate) provided by Title III of the Older Americans Act, to name a few. Increasingly, services similar to all the above can be purchased with waived Medicaid funds. In addition to these services, case management is increasingly being provided, especially in the waiver programs.

These waivered programs are politically popular. California, for example, which has the largest of these programs, was granted its initial Section 2176 waiver in June 1983. HCFA has permitted California to expand from a statewide maximum allowable case load of 1,900 in FY 83/84 to a statewide maximum allowable case load of 5,400 in FY 85/86.[2]

In California, publicly financed long-term care (LTC) of the elderly occurs in two LTC systems: in the Medicaid Section 2176 Home and Community-Based Waivered system--the Multipurpose Senior Services Program (MSSP); and in the general "system" or set of programs for the elderly poor, which is principally financed by Title III of the Older American's Act and Titles XVI, XVIII, XIX, and XX of the Social Security Act. I shall refer to this latter system as the Comparison system.

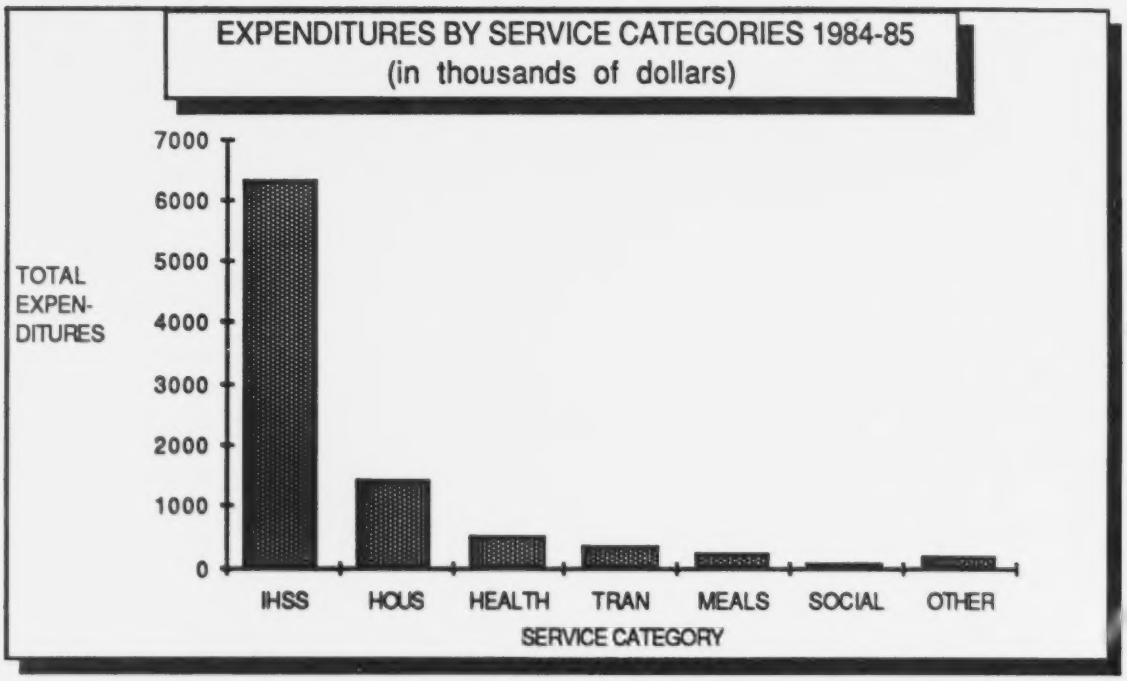
The purpose of MSSP is to provide for the efficient use of public funds to aid those older persons certified or certifiable for nursing home care to remain in the community when such residence is appropriate. The waivers provide case management teams with the flexibility needed to organize, arrange and purchase services which are not always available in every community or would not otherwise be funded by the Medicaid program, (Medi-Cal in California).

I shall characterize a California-type CBLTC system as one that emphasizes In-Home Supportive Services, or services that can be delivered by unskilled or semi-skilled workers. For example, referred IHSS, the principle community-based service in the Comparison system, and available to both comparison and MSSP clients, is the largest adult social service program in the state, currently spending $400 million per annum.[3] In MSSP, IHSS-type services consist of IHSS/Chore, IHSS/Personal Care, IHSS/Health Care, Protective Supervision, Respite/In-Home, and Protection/Call or Visit. In Fiscal 84/85, IHSS and IHSS-type services accounted for 74% of all referred service expenditures received by MSSP clients, and for 59% of all purchased services by MSSP.

By comparison, other services are minor. Housing and rent subsidies constitute 20% of these referred services of MSSP clients. And the remaining purchased services are distributed among many different service types, not rivaling the IHSS-type in importance. For example, transportation services, the second highest purchased service category, constitutes 15% of the purchased MSSP services, and an IHSS Health type service, one not provided by unskilled or semi-skilled workers, the third highest purchased service category, constitutes 71/2% of the purchased MSSP services.[4] Figure 1, on the following page, graphically demonstrates the overwhelming importance of IHSS services.

The impact of MSSP on client outcomes and costs in fiscal year 84/85 was recently evaluated.[5] Since that report provides the basis for describing what steps might be taken to improve the efficiency of a California-type waivered CBLTC system, I shall spend the first portion of this paper reviewing the methods used to estimate the effects of MSSP on outcomes and costs, report those results, then go on to suggest what I believe follows from that analysis.

**Figure1: The Use of Services in A California-type Home and Community-Based Waiver Program**




## Methodology

Since a participant can only be in one system at a time, any actual outcome or cost measurement reflects the system where care is rendered. To estimate the impact MSSP has on its clients, in terms of outcomes and costs, a method is needed to predict the consequences and costs of being in the system that does not actually care for the participant.[6] Because it was judged by the powers that be at the time as too politically vulnerable, MSSP did not use a random assignment design to evaluatate its effects on clients. Consequently, more sophisticated statistical models, incorporating adjustments for personal and system differences, must be used to estimate the average outcomes and costs of participants in each system. These averages are called expected results. The impact of MSSP is then estimated by comparing the expected outcomes, and the expected costs associated with those outcomes, for the same individuals in the MSSP and the Comparison systems in a six

month care period. The individuals used for the impact analysis are the clients in MSSP during 1984/85.

**Expected Outcomes**

I shall now go into a little more detail about methods. The reader may skip to page 8 if s/he is interested in the impact of MSSP on clients, or to page 17, which summarizes the main points that follow from the analysis and begins the discussion of what adjustments might be made to the system to improve its efficiency.

The models of both CBLTC systems have similar structures. Outcomes, in each system, are measured by the expected number of days participants spend in each of six possible residency settings during a six month care period. The residency settings are: the community; a temporary nursing home, (the participant has had a community stay within the last four months); an acute care setting; death; a drop out from the program; and a permanent nursing home, (the participant has not had a community stay within the last four months). These six settings are the same in both the MSSP and the Comparison system.

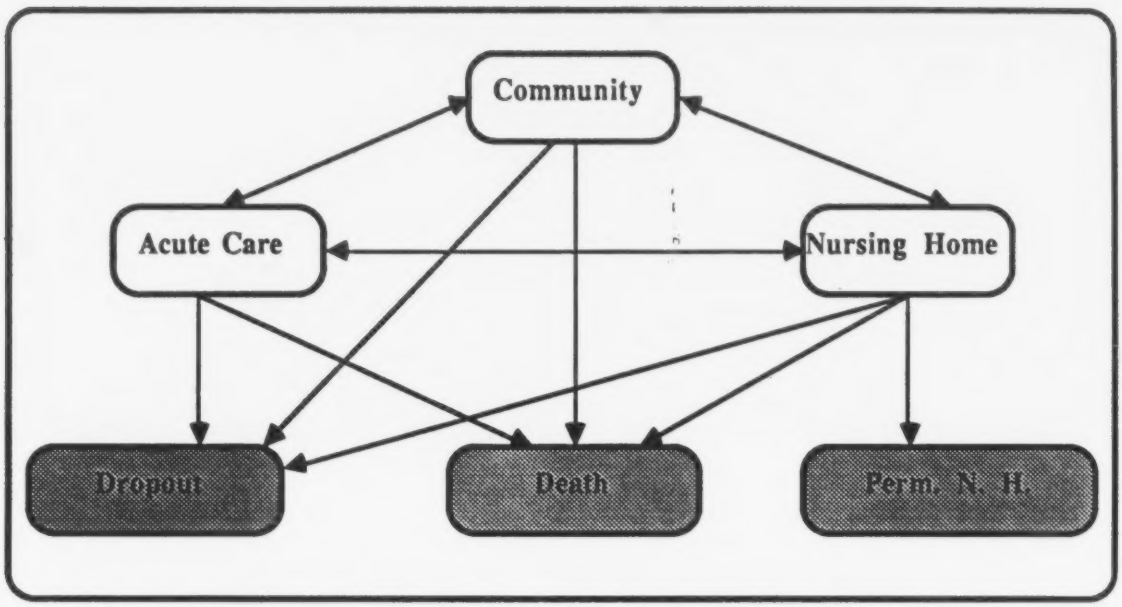
In addition to having the same residency possibilities, they similarly distinguish between residency settings "relevant" to CBLTC, and other settings. The three settings relevant to CBLTC, the community, a temporary nursing home, and acute care, are called transient settings because individuals in a community-based program can move among them in any direction. Three settings are not relevant to CBLTC: drop out, permanent nursing home, and death. Technically they are called absorbing settings. If individuals move into these settings they are no longer in a community-based program. Figure 2 portrays the residency settings and the permitted directions of movement between them in the models describing both systems.

The basic behavioral descriptions of an individual in each system are their rates of movement among the settings of the systems. These movement rates are called transition rates. Technically, they are time rates of change in the probabilities that a person who started in some setting would move from that setting to another setting. The transition rates are specified as functions of: the personal descriptions of people

in each system; a system indicator and the care they are likely to receive in each system; and terms that attempt to correct for selection and attrition biases that may have been introduced by the nonrandom selection of MSSP's clients.[7] Differences between the systems are reflected by differences in the transition rates.

**Figure 2**

**The Six Residency Settings and Possible Transitions Between Them**




Note: Arrows show the direction of possible transitions between any two states

= Transient State = Absorbant State

The models were estimated using MSSP's client and comparison residency-history data-base, which covers the period from January 1981 to Fall 1984, (the comparison group was disbanded when Project went to Program, 1 July 1983).[8] To produce the 84/85 impact analysis, the transition rates for MSSP clients were simulated for both the MSSP and the Comparison system models. Mathematical methods convert the expected transition rates describing the behavior of an individual in a system into expected durations of stay in the different residency

settings of that system for a predefined period.[9] In this study that period is six months. A comparison between the two systems of these expected stays in the different residency settings constitutes the estimate of the impact of MSSP on the outcomes of its clients.

**Expected Costs**

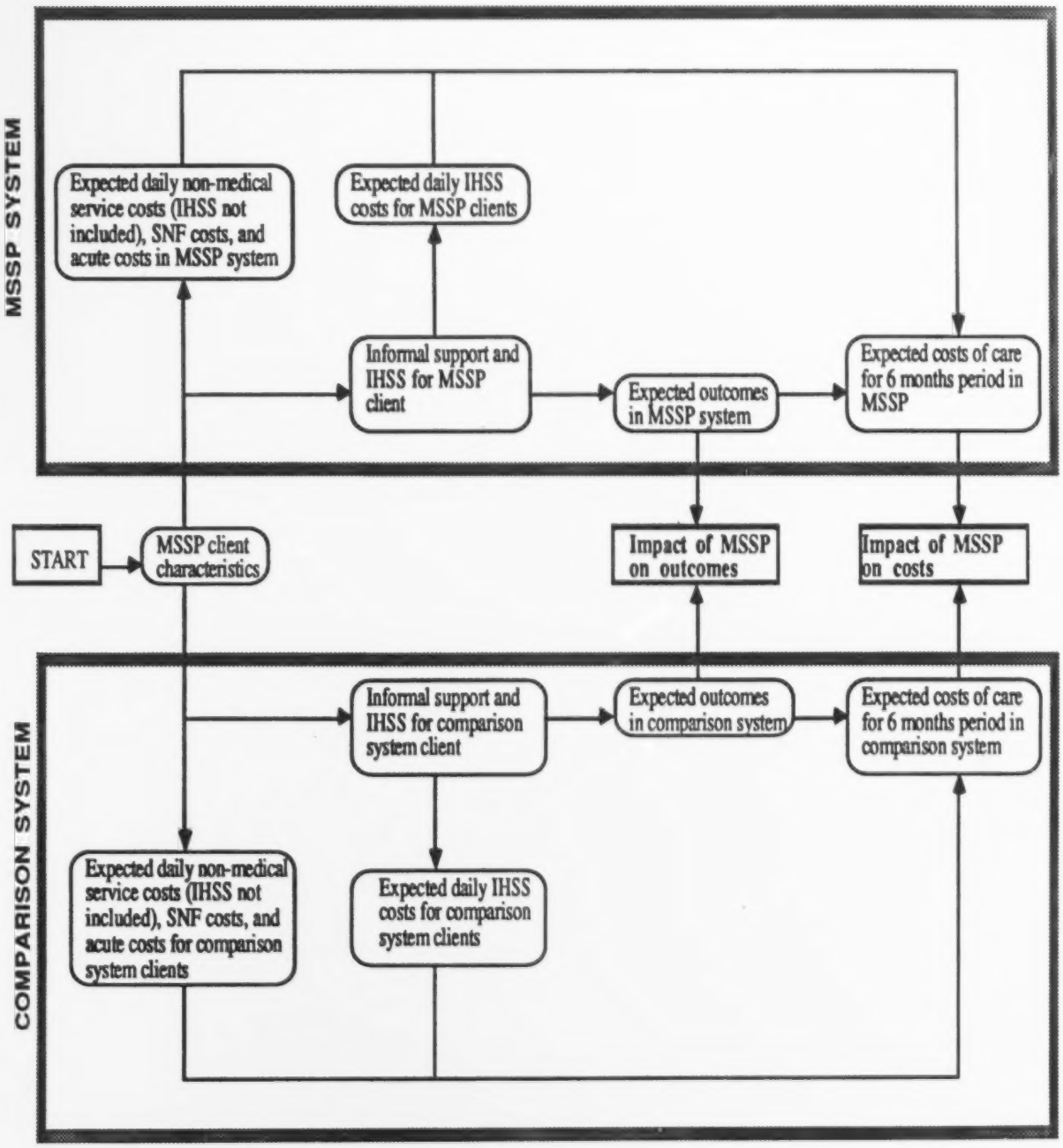
Within any setting, the product of an individual's expected daily costs and his/her expected stays, by residency setting, is an estimate of the total cost of care in that system for the care period under study. A comparison of these expected cost estimates constitutes the estimates of the impact of MSSP on the cost of care of a client. The analysis is schematized in Figure 3 below.

Expected daily costs are estimated for each residency setting in each system. Community setting costs, in each system, are the sum of non-medical expected service costs and medical expected costs. As I have shown above, IHSS is the largest component of non-medical expected service costs in community-based care in California. Accordingly, it is given special treatment in the expected cost estimates. The expected IHSS daily costs are the product of the expected IHSS hours per day for a person in a system and the average hourly cost of IHSS in that person's location. The expected IHSS hours per day are estimated with models of each system, and thus depend on personal characteristics. These models are explained in greater detail in previous publications.[10] For other non-medical services, average costs per day are used as the expected daily costs.

There are also models which predict the expected daily medical service costs for clients living in each residency setting. Community medical service costs include doctor visits, prescriptions and other medical services. Daily skilled nursing home and acute setting costs also depend on personal characteristics. These models have also been reported on in earlier publications.[11] Since clients in hospitals and nursing homes do not receive community-based services, there are only expected medical costs for these states.

**Figure 3**

**Overview of MSSP Impact Analysis**


MSSP SYSTEM
Expected daily non-medical service costs (IHSS not included), SNF costs, and acute costs in MSSP system
Expected daily IHSS costs for MSSP clients
Informal support and IHSS for MSSP client
Expected outcomes in MSSP system
Expected costs of care for 6 months period in MSSP
START
MSSP client characteristics
Impact of MSSP on outcomes
Impact of MSSP on costs
COMPARISON SYSTEM
Informal support and IHSS for comparison system client
Expected outcomes in comparison system
Expected costs of care for 6 months period in comparison system
Expected daily non-medical service costs (IHSS not included), SNF costs, and acute costs for comparison system clients
Expected daily IHSS costs for comparison system clients

### The Cost of Death

Costing out expected days in the death state is more complex. If MSSP is able to keep a client alive a day longer than the client would have lived in the Comparison system, MSSP incurs the cost of a day of care which the Comparison system does not incur. This in effect penalizes the MSSP system for reaching one of its goals.

To minimize this penalty, the method used to cost out days in each system must account for expected extra days of life. If either system saves days of life, the other system is charged the estimated cost incurred by the system saving the days of life. Accordingly, both systems spent the same amount on the difference in expected days of life per care period. This added cost adjustment is called "Extra Days Adjustment" since it adjusts for extra days in CBLTC. A more complete exposition of how this problem was handled in this analysis can be found in our August 1984 Final Report.[12]

### The Impact of MSSP on Expected Outcomes

Estimates of the impact of MSSP on 3525 clients during the 1984/85 fiscal year appear in the tables to follow. All results are estimated and reported for a six-month care period. Annual estimates would be estimated by doubling the reported results.

Each result is presented in an aggregate form, for all clients, and in a disaggregate form, averaged by groups of clients at different frailty levels. The frailty levels are defined by estimates of the probability of a client going into a nursing home or dying within a six month care period. These estimates also result from the outcome model estimated for each system. The strong group clients are defined as the MSSP clients who have less than a .05 probability of going into a nursing home or dying within six months. Thirty-nine percent of MSSP's clients are in this group. The middle group clients are defined as the MSSP clients who have between a .05 and a .15 probability of going into a nursing home or dying within six months. Fifty-two percent of MSSP's clients are in this group. The frail group clients are defined as the MSSP clients who have greater than a .15 probability of going into a nursing home or dying

within six months. Nine percent of MSSP's clients are in this group.

Table 1 focuses on a comparison of the MSSP and Comparison system outcomes. Table 1 is calculated from estimates of the expected stays in the six residency settings in both the MSSP system and the Comparison system, for each client. The difference between these figures are found, and the results are averaged over all clients, and for clients in each frailty group. It presents both the expected additional days that MSSP clients will spend in the community and will be alive during a six month care period. And it presents the reductions of days that MSSP clients will spend in nursing homes, (temporary and permanent), and hospitals.

On the average, MSSP increased the community stays of its clients by 2.60 days in six months. It increased their lives by almost a day, (.99), and kept them out of nursing homes for almost 2 days, (1.91 days). About one and one-third of those days were short-term stays, (1.35 temporary stays), and one-half day was from a long-term stay, (.56 permanent stays). Finally, it kept clients out of hospitals for about 5/8ths of a day, (0.62 days).

**Table 1: Expected Days Saved per Client Through MSSP Intervention for a One-Half Year Care Period During 1984/85, by Client Frailty Group**

| Frailty Group | n | Expected Days of Increased Community Stay | Expected Days of Life Saved | Expected Nursing Home Days Saved | | | Expected Hospital DaysSaved |
|---|---|---|---|---|---|---|---|
| | | | | Temp. | Perm. | Total | |
| All Clients | 3525 | 2.60 | 0.99 | 1.35 | 0.57 | 1.91 | 0.62 |
| Strong | 1365 | 0.59 | 0.38 | 0.47 | 0.16 | 0.63 | 0.47 |
| Medium | 1841 | 2.68 | 0.99 | 1.40 | 0.55 | 1.96 | 0.69 |
| Frail | 319 | 10.74 | 3.58 | 4.79 | 2.36 | 7.15 | 0.86 |

As average group frailty levels rise, the average benefits created by the program rise. The average strong group client stays an additional .59 of a day in the community. The average middle group client has more than a four fold increase over the average strong group client in days in the community, 2.68 days. And the increase in community stay for the average frail group client is an additional five fold increase over the average middle group client, 10.74 days. The bottom line on community stay benefits from the waivered program is that they are 20 times larger for the average frail group client compared to the average strong group client.

Similar results exist for the days of life saved by MSSP. The average strong group client saved a little over 1/3 of a day of life, (.38 days), the average middle group client saved almost a day of life, (.99 days), and the average frail group client saved over 3 and 1/2 days of life, (3.58 days). For a year, these frail group clients lived a full week longer.

The reduction in nursing home days per client were just about double the savings in days of life per client, by frailty group level. The average strong group client saved .63 nursing home days, the average middle group client saved 1.96 days, and the average frail group client saved 7.15 days. Reductions in hospital stays were moderate: a little under a half of a day for the average strong group client, (.47 days), almost 7/10ths of a day for the average middle group client, (.69 days), and about 7/8ths of a day for the average frail group client, (.86 days).

Figure 4 graphically displays the savings in days of life and institutionalization. As this graph vividly illustrates the results presented in Table 1, the best outcomes, in terms of days saved are for the frailest clients. This holds for days of life, nursing home days and hospital days. As previous years' analyses have found, MSSP is most productive with the frail group clients. How to get more of these clients into the waivered program is one of the major adjustments to be discussed in a later section of this paper.

**Figure 4**

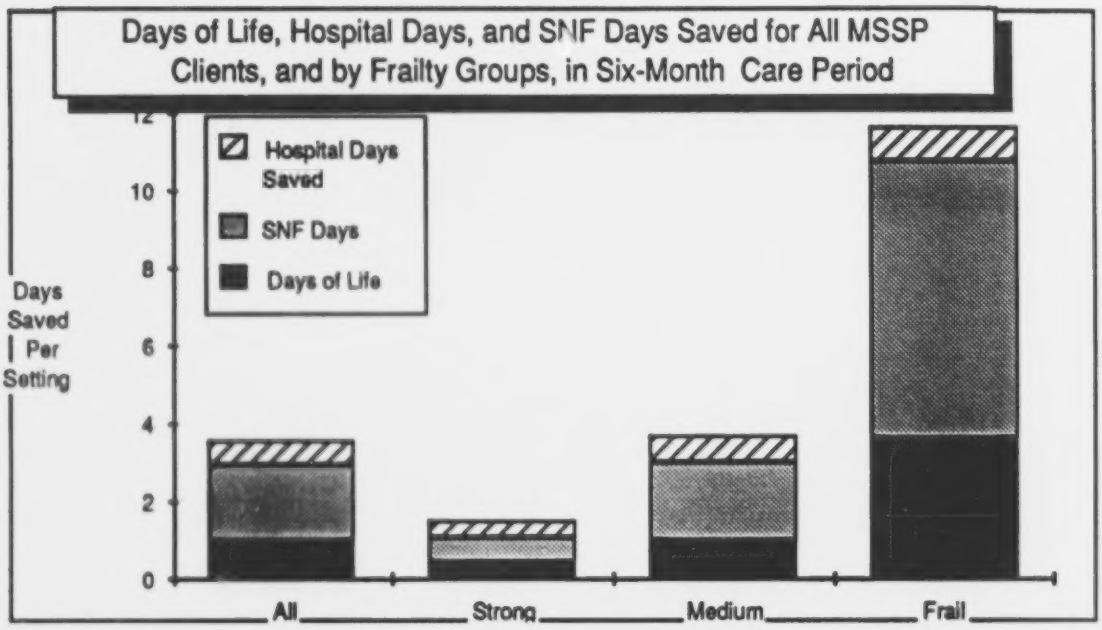



Table 2 presents the figures that underlie these results. They are the expected stays, by residency setting, for the MSSP clients in the MSSP system, and for the MSSP clients in the Comparison system. By comparing the duration of stay figures in the MSSP system with those in the Comparison system, the savings listed in Table 1 are found.

**Table 2: Expected Durations of Stay in Six Residency Settings in Two California Care Systems During a One-Half Year Care Period in 1984/85, MSSP and Comparison, By Client Frailty Group.**

**MSSP System**

| Frailty Group | n | Community | Temporary Nursing Home | Hospital | Death | Drop-Out | Permanent Nursing Home |
|---|---|---|---|---|---|---|---|
| All Clients | 3525 | 172.47 | 1.83 | 2.13 | 3.08 | 2.09 | 0.41 |
| Strong | 1365 | 176.45 | 0.65 | 1.36 | 1.45 | 1.97 | 0.12 |
| Medium | 1841 | 171.97 | 1.90 | 2.28 | 3.26 | 2.19 | 0.41 |
| Frail | 319 | 158.34 | 6.48 | 4.59 | 8.91 | 2.06 | 1.62 |

**Comparison system**

| Frailty Group | n | Community | Temporary Nursing Home | Hospital | Death | Drop-Out | Permanent Nursing Home |
|---|---|---|---|---|---|---|---|
| All Clients | 3525 | 169.87 | 3.18 | 2.75 | 4.06 | 1.17 | 0.97 |
| Strong | 1365 | 175.86 | 1.1 | 1.82 | 1.84 | 1.08 | 0.29 |
| Medium | 1841 | 169.28 | 3.30 | 2.97 | 4.25 | 1.24 | 0.96 |
| Frail | 319 | 147.59 | 11.27 | 5.45 | 12.49 | 1.22 | 3.98 |

## Results in Expected Costs

MSSP is required to be cost effective, and an important goal of CBLTC is to reduce expenditures for institutionalization. Therefore, the impact of MSSP in terms of costs is an analysis of whether MSSP resulted in any savings for its clients. This section presents the cost

outcomes in terms of savings accruing from MSSP.

First, savings per client in expected service costs are presented. Then, administrative costs per client are added to the expected service savings. All calculations are presented, as before, first for all clients, and then by the average clients for the three frailty groups.

**Results: Service Savings**

The monetary savings associated with the alternative service use of MSSP are displayed in Table 3. All of the numbers are negative, which means that MSSP spent more than it saved on services. Table 3 presents total service savings, and it presents a disaggregation of this total by State and Federal governmental funding units. Since a small percentage of local funding is involved, the sum of State and Federal savings do not add to total savings. MSSP administrative costs, including case management costs, are not included in this table.

The average additional service costs of MSSP were $246 per client for a six month period. This figure almost doubled between the average strong frailty group client and the average middle frailty group client; increasing from $151 to $270. Then, the additional service costs almost doubled again as frailty rose from the average middle frailty group client to the average frail group client, from $270 to $513. The additional costs to the different governmental units were quite even, with somewhat higher service costs for the State for the strong and middle group clients, and somewhat higher service costs for the Federal government for the average frail group client.

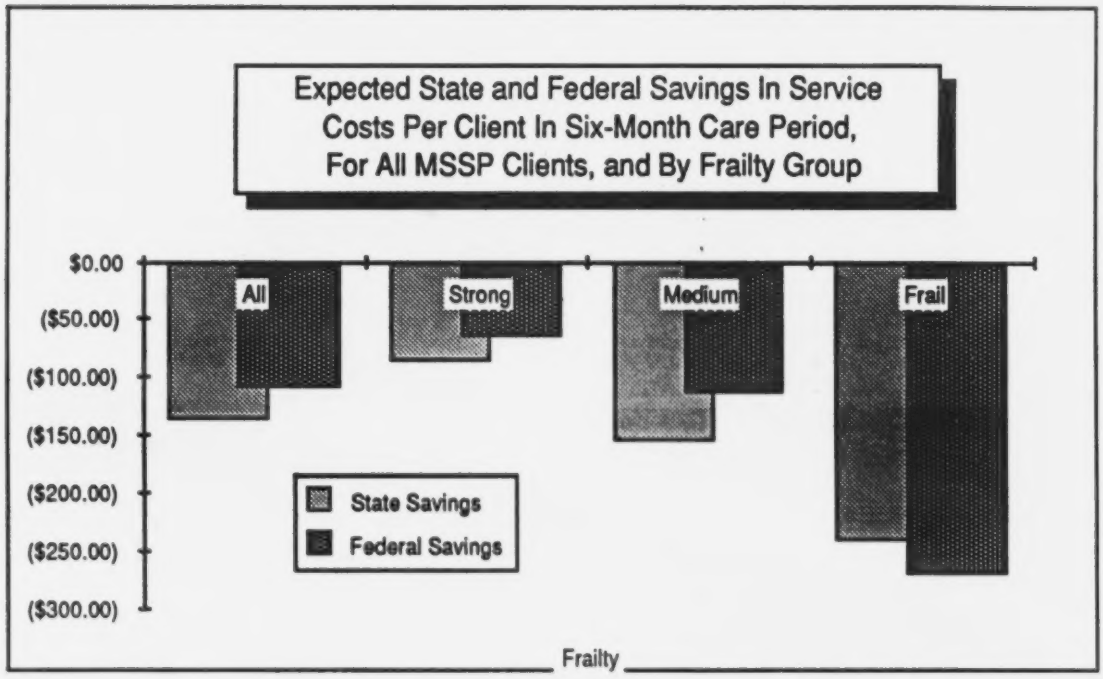
**Table 3: Expected State and Federal Service Savings Per Client Through MSSP Intervention for A One-Half Year Care Period During 1984/85, in Dollars per Client, by Client Frailty Group**

| Frailty Group | n | Total Service Savings* | Total State ServiceSavings | Total Federal Service Savings |
|---|---|---|---|---|
| All Clients | 3525 | $-246.00 | $-136.74 | $-110.38 |
| Strong | 1365 | -151.05 | -85.53 | -66.70 |
| Medium | 1841 | -270.14 | -156.55 | -114.72 |
| Frail | 319 | -512.96 | -241.59 | -272.28 |

* Total state and federal savings do not equal total savings because there are other local funding sources.

Figure 5 displays the relative Federal and State service savings, for all clients and by frailty group. As shown, all the savings are negative, and thus represent added costs. The added costs are highest for the frail clients and slightly more of these added costs fall to the Federal government. For the other levels of frailty, slightly more of the added costs accrue to the State government.

Figure 5




**Results: Service Savings Plus Administrative Costs**

Table 3 and Figure 5 do not include the administrative costs associated with MSSP. Case management costs are included in these administrative costs. The administrative costs were $1584 per client per six months, or over $3,100. per year, during 1984/85. In Table 4 MSSP's administrative costs are added to MSSP's additional service costs yielding the total additional cost of MSSP per client for the six month care period under analysis.

On the average it cost an additional $1830 per six months to have a client in MSSP instead of in the Comparison system. Costs rose moderately with increases in frailty levels. The average strong group client cost an additional $1735. The average middle group client cost an additional $1854. The total additional cost of the average frail group client is 20 percent more than the total additional cost of the average strong group client, or $2,097. for six months. Figure 6 vividly illustrates the importance of administrative costs to service costs in MSSP.

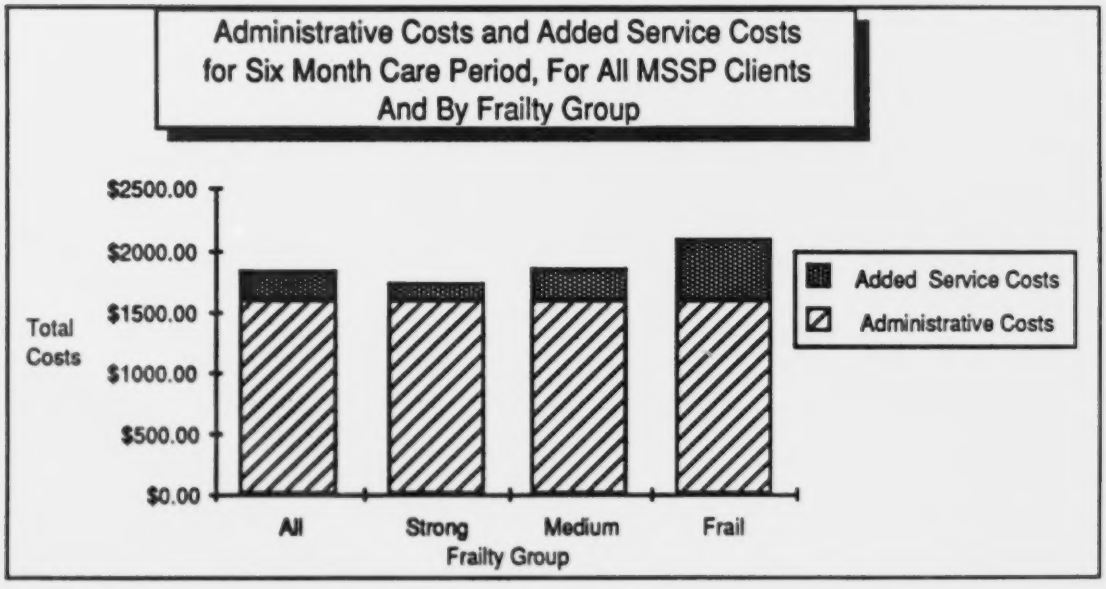
**Table 4: Expected Total Savings Per Client Through MSSP Intervention for A One-Half Year Care Period During 1984/85, in Dollars Per Client, by Client Frailty Group**

| Frailty Group | n | Total Service Savings | Total Administrative Costs^ | Total Savings |
|---|---|---|---|---|
| All Clients | 3525 | $-246.00* | $1584.00 | $-1830.00 |
| Strong | 1365 | -151.05 | 1584.00 | -1735.10 |
| Medium | 1841 | -270.14 | 1584.00 | -1854.10 |
| Frail | 319 | -512.96 | 1584.00 | -2097.00 |

* Negative savings are additional costs over the costs that would be expected if the client were not in MSSP.

^ Costs = -Savings

**Figure 6**



We have assumed here that MSSP's reported $264 per client per month in administrative costs are equally distributed across clients.[13] MSSP lists monthly site costs of $77 and $93 per client per month for case management and site support, respectively. In a time study of the activities performed in MSSP, Grisham found that discretionary time spent by the case management team increased with conditions associated with increased client frailty. Since her study preceeded all client frailty estimates, the relationship between case management time and client frailty has never been directly studied.[14] However, at the time Grisham did her analysis, MSSP had collected a judgement made by the case management team about which of the clients were "at the threshold of institutionalization." Grisham found that those at the threshold of institutionalization took about 23% more time than those not at the threshold of institutionalization. Case management costs are 29% ($77/$264) of administration costs. Twenty-three percent of 29% is 6.7%. Accordingly, the administrative expenses of the frail group might be 6.7% higher than the case management costs of the strong group clients.

Since administrative costs are divided equally between the State and the Federal government, the approximate equal splitting of costs that was observed in Table 3 is true for the full costs of the program as well.

## Summary of Salient Points About Program Adjustments That Can Improve the Efficiency of the Programs

HCFA's regulations governing Home and Community-based Waivers requires that programs cost no more than if the waivered program did not exist.[15] This regulation insures that the programs be budgetarily neutral. HCFA then implements this regulation with Form 372, which reduces the comparative cost exercise to a comparison between the Medicaid related costs of community-based clients, and Medicaid's nursing home care costs By these standards California's system is in compliance.[16]

The problem, of course, is that assuming that all clients would have been in nursing homes without the program, and that the

program is responsible, either directly or indirectly, for all clients staying in the community, is contrary to the fact. The impact estimates reported in the earlier portion of this paper are a response to California's own criterion for evaluating MSSP--that in essence, the costs of services required to maintain a person at home shall be compared to the costs of services for persons who have not received MSSP services, which is found in the California Welfare and Institutions Code, § 9405 (g) (4). Incidently, due to agreements between the California Department of Aging and HCFA, unless the Department is instructed otherwise, the impact analysis reported here is the last of its species.

The vast majority of other researchers have found similar results to ours.[17,18] Admittedly, the outcome analysis reported here expresses a limited view of the benefits from waivered programs. The Channeling experiment explored the value of the programs to the primary care givers and found that the basic case management model "reduced the percent of (primary) caregivers who perceived limitations on their privacy and social life,..(may have reduced) caregiver worry about obtaining sufficient help...and increased (their) overall life satisfaction."[19]

With increasing understanding that the real total costs of CBLTC are not budgetarily neutral, sooner or later someone is going to ask, "Can we can afford case management for the elderly?" If the answer is yes, there is no problem. But if not, what can be done? I turn now to discuss some of the adjustments that can be made to California's waivered long-term care system to improve its efficiency.

There are three major points relevant to efficiency in a California-type CBLTC system that follow from this evaluation. They are as follows:

- The deinstitutionalization outcome benefits to frail group clients is, on average, twenty times the deinstitutionalization outcome benefits to strong group clients. Consequently, programs should focus their care on these more frail clients. It is imperitive that more frail clients be targeted for program admission.

• The expected total costs of caring in the waivered program for the average frail group client is twenty percent higher than the expected total costs of caring for the average strong group client. The additional expected service costs for the frail clients are less than four times the additional expected service costs of the strong clients. Thus, the administrative costs are the principle cost producing activities in a California-type waivered CBLTC system. Twenty nine percent of these administrative costs are case management costs. Therefore, ways to reduce case management costs, which do not reduce the outcomes to clients, would improve the efficiency of the program.

• Since IHSS and IHSS-type services are the principle services used in CBLTC in a California-type program, efficiency in their use would improve the efficiency of the CBLTC programs. To this end, the Evaluation Unit of MSSP has recently been doing some work on best IHSS-type awards. Space does not permit a full description of this work in this paper. Accordingly, the remainder of this paper will focus on client selection, a reorganization of LTC to lower administrative costs, and some of the barriers to these changes.

**Steps to be Taken For Selection of Frail Clients**

The process of choosing more frail clients can be institutionalized. The use of "pre-admission" nursing home screening assessments has been suggested.[20] Something like this can be partially, or even completely, substituted for direct application and for referrals from other community based agencies. Some clarification is necessary to focus this suggestion.

In 1980-81, when we were designing the comparison group for MSSP's evaluation, Bill Clark found that upon physician referral, patients were placed in nursing homes fully a month before their written Medi-Cal field office treatment authorization requests were approved. The admission system worked with verbal authorizations, which were secured within three days of a patient's admission. The salient point is that authorization occurred after patients were under the roof of the nursing home.

There have been developments to the authorization process since that time. In response to the needs of acute care facilities to more rapidly discharge patients, which followed Medicare's implementation of reimbursements based on diagnostic-related groups, a different system of authorization evolved. A review of nursing home patients must now be made within one month after their nursing home admission. This is certainly not an inappropriate way to handle the potential back-up of patients at acute facilities. It offers a time and place to make a determination of whether a patient could be supported in the community with community-based care. The problem is that Medi-Cal Field Office personnel are not concerned with this issue. In the organization and division of labor and responsibility, their business is to determine the appropriateness of nursing home expenditures on patients under review.

In a more coordinated approach to long-term care, the nursing home review would determine whether patients could be cared for in a CBLTC program. Understand, present HCFA regulations do not allow Federal reimbursements for community-based service activities that occur while a patient is in a nursing home. Involvement of community-based personnel in this review process would probably fall under those non-reimbursable activities. The State has a bit of a dilemma here. How program personnel can be included in the review process and who is going to pay for these activities has to be worked out. It is safe to say that review practices would have to be changed and negotiations with HCFA will have to take place if one expects to use the opportunity to secure frail group clients for community-based care.

Time and again, LTC planners worry about physicians possibly using pre-admission screening as a way to secure additional community-based services for their patients. It is easier to see this as a possibility when pre-admission screening is actually used. But the review process described above, operating with a well coordinated long-term care system, using appropriate criteria for admission to each of its parts, could hardly be inappropriately influenced by such actions, even if they were unlikely.

The nursing home review process, while probably the best, is only one of the ways of choosing clients for community-based programs. Selecting between prospective applicants, who presently live in the community, is another. The history of CBLTC research reads like a constant admonition to improve this process. In response to this need, the MSSP Evaluation Unit developed the expected frailty prediction for a prospective client, the measure predicting the probability of the prospective client entering a nursing home or dying within six months. This was the measure used to disaggregate the outcome and cost results that were presented earlier in this paper.

It must be understood that these predictions work fairly well for groups, but it is with individuals that one is making admission and allocation decisions. Thus, frailty predictions, or any other predictive assistance, can <u>not</u> be a substitute for case management decision making. Rather, the frailty information must advise and inform that decision making process.

To use the frailty prediction, that is, to be informed by it, it must be available to agency personnel at the time these decisions are made. This requires a decision support system, which MSSP has been developing and testing for a while now, that is used by program personnel. Equally important, it requires an understanding by the program personnel that assessments are going to be made of prospective clients who will subsequently not be admitted to the waivered program. Programs presently view the assessments of individuals who are not admitted to the program as a waste of their time. In fact, there is no way this time can be charged. If better referral and allocation arrangements operated between alternative care programs, a CBLTC system would legitimate assessment information beyond its use for admission to any single part of the system.

**Steps to be Taken To Reduce the Costs of Case Management**

It is obvious that significant cost reductions on a per client basis can be made if the effective case loads were increased. The way to do this is not by increasing case load sizes in the present program. Case managers are busy all the time. Expanding present case loads merely sets up the incentive to admit stronger clients, who do not need case management, so that the case managers can conduct their business with the clients they know need it. Of course this will create the illusion that average costs per client are falling and more work is being done.

I believe the question that must be addressed by MSSP has to do with dividing MSSPs clients between MSSP and something like the linkage program. Some significant percentage of MSSP clients could be cared for by a program that initially provided clients with case management and additional services, exactly as if they were in MSSP, but a program in which the case management component only lasted for a relatively short period. Precisely how long that period should be is not known by this author. It should be sufficiently long to stabilize a case. It is probably not unreasonable to think in terms of between 3 and 6 months. Thereafter, clients in this program would receive increased services, most probably at levels commensurate with those that MSSP clients receive.

On what grounds am I willing to venture that a significant percentage of MSSPs clients could be cared for in such a program? There are three. First, all of the incentives that presently exist in the program, from the need to keep the total average costs at 95% of nursing home costs, which creates a need for stronger clients, to the need not to make assessments of people who would not be admitted to the program, suggest that there is a significant possibility that the program has clients who do not permanently need case management and extra services.

The second source of information is from a reading of the case vignettes that MSSP uses to qualitatively describe the extent and complexity of the problems their clients have, and the way that

MSSP has cared for these clients, and saved them from nursing homes placement.[21,22] These clients are obviously not randomly selected. The best guess is that they describe some of MSSP's most frail cases. In my opinion, they read as if they are describing clients in need of the case management and the additional services that MSSP offers. But, rather interestingly, for over half of the cases illustrated, one wonders whether the clients really need to continuously receive case manangement after all of the initial problems have been addressed.

The final evidence is suggested by our frailty predictions and the extent that case managers agree with them. As Table 1 on page 9 shows, 39% of MSSP's clients are predicted to have less than a one in twenty chance of going into a nursing home or dying within six months, and 52% are predicted to have between a one in twenty and about a one in six chance of having this fate. In an inquiry to case managers in three prototype sites about whether they agreed with the frailty predictions, by frailty grouping, 48% agreed with the strong group ranking, and 73% of the disagreements placed clients in the middle frailty grouping. The results were about the same for the middle group ranking: 59% agreeded with the middle group ranking, and 14% of the disagreements placed the clients in the strong group.[23]

What effect would such an alteration to MSSP's case load have on administrative costs? Assume that half of MSSP's clients could be cared for this way, and that these clients required 6 months of case management before they were placed on the "services only" portion of the program. In the course of one year, the same administrative costs would be spread over 50% more clients, reducing administrative costs from $3168 to $2112 per client. In the course of two years, the same administrative costs would be spread over 150% more clients, reducing administrative costs per client from $3168 to $1268 per client

Actually, reductions might not be as large as these figures suggest for two reasons. First, case load sizes should probably be reduced because case managers will be caring for more difficult case loads. Since case management is only 29% of administrative costs, increases in caseload sizes only fractionally increase to the

administrative costs per client. Second, we can not assume that client movements will only be from MSSP to linkages. Cases that have been transferred to the linkage component may be transferred back to the MSSP component as client conditions change. How frequently and how often this is likely to occur is better estimated by people closer to the program.

What should be clear is that the development of this option introduces another client selection problem, and another level of program integration is required. The selection criterion here is whether the client is likely to need case management all of the time. Clients who are in the frail group (or possibly the middle group), and who need case management all of the time would be in MSSP. Clients who are frail or in the middle frailty group and whose community living situations can be stabilized, would be in the linkages program. Stronger clients would be referred to the IHSS program. The program integration requirement is for unified or subsetted assessments, the ability to share and exchange information, and the development of uniform practices and ways to supervise these.

One of the principle problems with the development of this type of CBLTC system is that HCFA waivers a total number of clients per annum. At the present time that figure is 5,400. So the development of this system will be difficult to begin and will soon reach its client limit. I say difficult to begin because within a fixed client load the plan will appear to be offering less care to the same number of clients. There will not be much political support in the long-term care constituency for such an approach. With a fixed annual case load the limit will soon be reached and the gains from such an approach will not be realized. What we need is an expanded annual maximum case load size, but we need to change the program to secure this size.

## Conclusion

This paper has reviewed the latest estimates of the impact of MSSP on expected outcomes and costs, and has suggested three points that follow from that analysis that should influence the development of an efficient CBLTC system. First, the benefits

from the program for the average frail group client are 20 times the benefits that the average strong group client receives from the program. Second, the additional costs associated with caring for the frail group client are only 20% higher than the costs of caring for the strong group member. This is because administrative costs are such a large proportion of the additional costs of caring for a client. Third, the principle service in the program is In-Home Supportive -Services in the referred system, and a type of In-Home Supportive Service in the waivered program. This paper has focused on the implications of the first two points.

The suggestions proposed focus on better targeting and changing the program structure so that a significant percentage of MSSP's clients receive only additional services after their cases are stabilized with case management and additional services. Targeting can be improved by using the Medicaid nursing home review process to determine the suitability of community-based living (supported with community-based care), and by using the frailty targeting predictions in the microcomputer systems presently in the MSSP sites to influence admission to the program.

Administrative costs per client can be cost by factors of 2 and 3 over the course of time if a significant percentage of MSSP's clients can be put into a program after their community-residency is stabilized, that only provides additional services.

California is presently seeking new waivers to continue and possibly expand its Seclion 2176 Home and Community-based waivered program. It is meeting resistance to its presently proposed additions to case loads. Since HCFA's objectives are consistent with the suggestions offered here, changes in California's waivered system consistent with these suggestions could be positively viewed by that Federal agency.

## Notes

1. Clinksdale, Bob, [1987]: private correspondence about a forthcoming report from La Jolla Management Corporation.

2. State of California, [1985]: Health and Welfare Agency, Department of Aging, Report to the California State Legislature, The Multipurpose Senior Services Program, April 1985, p.1.

3. State of California Health and Welfare Agency, Department of Social Services: Public Welfare in California, Statistical Services Branch, Statistical Series, PA3-297, June 1984.

4. Miller, Marie Grisham, Non-Medical Services for MSSP Clients, FY 1984-85, MSSP Evaluation - UNEX, University of California, Berkeley, CA. 94720, June 1986

5. Miller, Leonard S., Impact of MSSP, 1984/85, MSSP Evaluation - UNEX, University of California, Berkeley, CA. 94720, November 1986

6. Earlier versions of this kind of analysis appear in Miller, Leonard S. et. al. The Comparative Evaluation of the Multipurpose Senior Services Project--1981-1982: Final Report, MSSP Evaluation - UNEX, University of California, Berkeley, CA. 94720, August 1984, and in Multipurpose Senior Services Program: Impact Analysis, 1983-84, MSSP Evaluation - UNEX, University of California, Berkeley, CA. 94720, July 1985.

7. See Tuma, N.B., Hannan, M.T., and Groeneveld, L. P.: "Dynamic Analysis of Event Histories," in E.W. Stromsdorfer and G. Farkas (eds.) Evaluation Studies Review Annual,Volume 5, (Beverly Hills, CA.: Sage Publicastions Inc.; 1980)

8. Tuma, N.B., Invoking Rate, (Stanford, CA.: Stanford Univeristy; July 5, 1979, revised January 29, 1980)

9. Chiang, C.L., An Introduction to Stochastic Processes and Their Applications, (Huntington, NY.:Robert E. Krieger Publishing Company; 1980) especially chapter 14.

10. See note 5 above.

11. Marleen L. Clark, Medical Services for MSSP Clients, FY 1984/85, MSSP Evaluation - UNEX, University of California, Berkeley, CA. 94720.

12. See the first entry in note 6 above, pp. 56-60.

13. See reference 2. above, p. 26.

14. Marie Grisham, The Use of Case Management Time in a Broker Model Agency: Analysis of a Time Study in California's Multipurpose Senior Services Project, MSSP Evaluation - UNEX, University of California, Berkeley, CA. 94720, December 20, 1983.

15. Department of Health and Humand Services, Health Care Financing Administration, Federal Register, 50(49), Wednesday, March 13, 1985, Rules and Regulations, pp. 10013-10028.

16. California Department of Aging, Report to the State Legislature, April 1986

17. Berkeley Planning Associates, Executive Summary: Evaluation of Coordinated Community Oriented Long-Term Care Demonstration Projects, July 1984.

18. U.S. Department of Health & Humand Services, The Evaluation of the National Long Term Care Demonstration: Final Report, (Princeton, N.J.: Mathematica Policy Research, Inc.; May 1986)

19 U.S. Department of Health & Humand Services, Jon B. Christianson, Channeling Effects on Informal Care, prepared by (Princeton, N.J.: Mathematica Policy Research, Inc.; May 1986), p. vii.

20 See note 17.

21. California's HCFA 372 Report for Fiscal Year 1984-85, Section E.

22. See California Department of Aging, Report to the Legislature on the Multipurpose Senior Services Program, 1986, pp. 28-31

23. Office Memorandum from Susan Prindle to Len Miller, Larry Walter, Bill Clark, RE: Final report on targeting pages received from 3 Prototype

Sites, MSSP Evaluation - UNEX, University of California, Berkeley, CA. 94720,March 5, 1987.